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| 10/075,244 | 02/15/2002 | Hiroyuki Nakano | 501.41175X00 | 7857 |

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EXAMINER

PADGETT, MARIANNE L

ART UNIT PAPER NUMBER

1762

DATE MAILED: 07/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/075,244

Applicant(s)

NAKANO ET AL.

Examiner

Marianne L. Padgett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/20/05 & 4/18/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) 19-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/20/05 has been entered.

2. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, lines 14-15 and 18 recite "a state of contamination of the inside wall", such that it is ambiguous whether or not they are the same limitation or not. Applicant's statement on p. 15 of the 6/20/05 response appears to indicate that they are purposely written to be ambiguous or unclearly related. One can write limitation such that they may be the same or different without leaving the claim's intent unclear. In lines 15 and 17 "a signal" is similarly unclear.

In claim 12, exactly what is meant by "a predetermined relationship of imaging...", one with respect to the plasma and the other with respect to the inside wall in lines 15-16 and 19-20, respectively? The phrase's use of "imaging" implies it has something to do with how the signal from the light is displayed, but that wouldn't appear to be particularly relevant or significant. Does it have some non-idiomatic meaning? One relationship that the examiner would expect to be predetermined, would have been the position at which each optical unit is placed, or the positions it may be able to scan, so that it takes in data from predetermined part of the chamber for measuring the suspended material and wall contamination & can be said to have a predetermined relationship with whatever image will be produced from the data. If this is what is meant, it

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would have been expected to be done by competent works, as no one who wants meaningful data places their detectors randomly or indiscriminately. Note in claim 12, the repeated “an optical...” and “a predetermined...” as now written, have distinguishing modifiers.

In claim 13, due to the lack of any article showing antecedent basis, it is uncertain whether or not the “information...” (either lines 3 or 4) used for the controlling of the plasma is from that obtained from the optical unit of claim 12, line 16 or line 20. While the examiner suspects it is intended to be, the claim language as written does NOT necessitate it.

In claim 14 and 15, “the projection operation” and “the obtaining operation...” lack antecedence, because unlike claim 1, the term operation has never been introduced in claim 12. Consequently, “information” is not clearly related to the independent claims in claim 15. See claims 16 and 17 for similar problems. Also, in line 4 of 15, what does “the desired utilized” mean? It appears that in the amendment of 6/24/04 too many words have been deleted or something was forgotten to be added.

3. Claims 1-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

There is no provision in patent law that allows applicant to expand the scope of their disclosure at will by claiming broader generic limitation than are present in their original disclosure. Applicant's discussion on p. 14 of their 6/20/05 response fails to point out any generic disclosure for claiming “by referring to a data base storing predetermined relationships

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between a signal...". Sometimes it is permissible to claim a generic limitation based on a set of examples, but it depends on the examples and the generic grouping which applicant is trying add to the claims (or specification). The amended "predetermined relationship..." is an all-encompassing catch all that was NOT disclosed. The supported profile and thickness relationships are that are closely related to each other, both having to do with variation in amount of deposition the wall. Applicants' supposed support on p. 25 and 33 have NOTHING do with contamination on the wall, but are discussing suspended particles, hence are not relevant. Applicants' citation of "speckle pattern" sounds like it is related to profile of the deposit, not microstructure, but the whole discussion on that page is fairly non-idiomatic, with the speckle pattern possibly referring to the light (image), as "the said speckle pattern is taken with the image pick up device..., a slight variation in surface state on the inside wall 5 can be detected from a variation between speckle patterns...". So while it's non-idiomatically vague, it appears to be most closely related to the previous profile teachings, not other nondisclosed relationships, like composition and microstructural (i.e. amorphous, crystalline, etc), which are encompassed among others by applicants' broad amendment of generic relationship. For these reasons, the amendments of 4/18/05 and 6/20/05 are deemed to introduce New Matter into the claims. Applicants should cite valid support or prove inherency, if they want to expand the scope of the disclosed invention. The examiner has failed to find the added claim language that p. 14 statement alleges with out saying where, was in the original specification. The 2 may be 3 examples provide that are of a subgenera of a broader new limitation are not adequate support.

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The uncertainty of the meaning of the newly added cryptic phasing in claim 12, provide an uncertain scope, which in its above discussed uncertainty, also encompasses New Matter, since all the options encompassed thereby were not originally disclosed.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakano et al (JP11-330053) and Bennett et al (JP03-147317 or US 5,367,139), in view of Katsuyama et al (JP 11-34196), as discussed in section of the action of 11/18/04, and section 6 of 11/5/03.

With respect to all the references, all of which have "optical units" i.e., detectors, that have predetermined locations with respect to all their light source, the light are cause to be scattered or reflected in the chamber, including the ability to scan predetermined locations.

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These are predetermined, because of the illustrated locations in the apparatus figure. As the light that is detected can be considered to be imaging, these all read on possible interpretations of applicants' cryptic new language in claim 12, and it is not seen to provide patentable distinction to the claims.

With respect to claim 1, which requires the use of a database having any sort of data or relationship previously determined that have some relation to signals that may be detected and the chamber wall + contamination thereon, the following are noted. First, that any science student or competent worker would have been expected to essentially zero or calibrate their values, such as to subtract any signals that represented the chamber wall itself, not contaminates thereon. As the signals produced by a spotlessly clean chamber would have been known (initially determined), because its shape and/or composition, etc., was known, or more likely was determined in an initial calibration run before use of the chamber was started for processing. Such would have been basic, competent scientific procedure, and obvious as a routine technique to calibrate one's instruments. It would be a "predetermined relationship..." as broadly claimed, and only the incompetent would fail to consider such, as its equivalent to weighting your dish for holding a powder, before using the dish to weight the powder or to zeroing a balance. If applicants have something more specific and less obvious in mind for their broad limitations, clearly claiming it would be appropriate.

6. Applicant's arguments filed 6/20/05 and 4/18/03, discussed above have been fully considered but they are not persuasive.

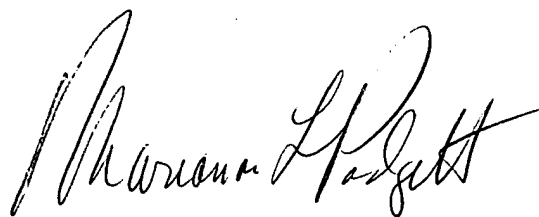
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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M L. Padgett whose telephone number is (571) 272-1425. The examiner can normally be reached on Monday-Friday from about 8:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached at (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. L. Padgett/af
July 8, 2005
July 18, 2005

A handwritten signature in black ink, appearing to read "Marianne Padgett", written in a cursive style.

MARIANNE PADGETT
PRIMARY EXAMINER